air;" he proceeded to repeat an experiment which had previously been made by Boyle, in heating metallic tin to redness in a sealed glass vessel; there was neither gain nor loss of weight, although the tin had been partly converted into "calx;" but on admitting air, he observed a gain in weight, nearly equal to that which the tin had gained on being calcined. The conclusion was obvious, that the gain in weight was due to the absorption of a portion of the air by the hot tin; and he subsequently showed that the gain was to be ascribed to the absorption of Priestley's "dephlogisticated air," of which Priestley had shown common air to contain about one-fifth. And in 1777 Lavoisier published the statements:—

(1) **Substances burn only in pure air.**
(2) **This air is consumed in the combustion, and the increase in weight of the substance burned is equivalent to the decrease in weight of the air.**
(3) **The combustible body is, as a rule, converted into an acid by its combination with the pure air, but the metals, on the other hand, are converted into "calces."**

***Oxygen.***—This last statement explains the name which he gave to Priestley's and Scheele's gas, namely *oxygen*, a word derived from two Greek words, signifying "acid-producer." The compounds of this substance he termed "oxides;" and it is to him that we owe the system of nomenclature now generally in use. Before the end of the century, the doctrines of Lavoisier had gained almost universal acceptance.

The word "analysis," as has been stated, was suggested by Boyle, to signify the ascertaining the composition of substances. Attempts were made by him, and by other chemists, especially by Black, to perform quantitative analyses during the seventeenth and the first half of the eighteenth centuries. Priestley and Scheele tried to find the relative proportions of oxygen in air with partial success;